

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-15 (canceled)

Claim 16 (currently amended): A reflowable solder bar formed upon an upper surface of a first substrate, the first substrate having a first electrical contact, said reflowable solder bar being adapted to join the first electrical contact to a second electrical contact on a second substrate, said reflowable solder bar comprising in combination:

a. a first generally circular solder pad formed upon the upper surface of the first substrate, the first generally circular solder pad having a center, and having a first predetermined diameter D;

b. a second generally circular solder pad formed upon the upper surface of the first substrate, the second generally circular solder pad having a center, and having said first predetermined diameter D, the center of said second generally circular solder pad being spaced from the center of said first generally circular solder pad by a predetermined spacing distance BL;

c. a solder bar pad of a first predetermined bar width BW formed upon the upper surface of the first substrate connecting said first circular solder pad to said second circular solder pad, the first predetermined bar width BW being less than the first predetermined diameter D;

d. a mass of ~~low melting temperature reflowable~~ tin/lead eutectic composition solder having a solder bar volume VB formed over the first and second generally circular solder pads and over said solder bar pad to form said reflowable solder bar, the solder bar volume VB

reaching a height H1 above the centers of said first and second generally circular solder pads, and reaching a height H2 above a midpoint of said solder bar pad, the mass of ~~low melting temperature reflowable tin/lead eutectic composition~~ solder having a lowermost base region adjacent said solder bar pad, the width of the lower most base region of the solder mass along the solder bar pad being substantially equal to solder bar pad width BW;

e. wherein the values for predetermined diameter D, spacing distance BL, predetermined bar width BW, and solder bar volume VB are selected in such manner that H1 and H2 are approximately equal.

Claim 17 (previously presented): The reflowable solder bar recited by claim 16 wherein conventional generally circular (as viewed from above) solder bumps are also formed upon the upper surface of the first substrate, the conventional generally circular solder bumps having a height H3, and wherein height H1 and height H2 of said solder bar are approximately equal to height H3.

Claim 18 (previously presented): The reflowable solder bar recited by claim 17 wherein the conventional generally circular solder bumps have a particular solder pad diameter Dc, and wherein the diameter D of said first and second generally circular solder pads of said solder bar is in the range of from substantially Dc to substantially 2 times Dc.

Claim 19 (previously presented): The reflowable solder bar recited by claim 17 wherein the conventional generally circular solder bumps have a particular solder bump volume Vc, and wherein the solder bar volume VB is in the range of from substantially 2 times Vc to substantially 5 times Vc.

Claim 20 (previously presented): The reflowable solder bar recited by claim 16 wherein said first substrate is a flip-chip integrated circuit.

Claim 21 (previously presented): The reflowable solder bar recited by claim 16 wherein any difference between height H2 and height H1 is less than 10% of height H2.

Claim 22 (previously presented): The reflowable solder bar recited by claim 16 wherein any difference between height H2 and height H1 is less than 5% of height H2.

Claim 23 (new): A reflowable solder bar formed upon an upper surface of a first substrate, the first substrate having a first electrical contact, said reflowable solder bar being adapted to join the first electrical contact to a second electrical contact on a second substrate, said reflowable solder bar comprising in combination:

- a. a first generally circular solder pad formed upon the upper surface of the first substrate, the first generally circular solder pad having a center, and having a first predetermined diameter D;
- b. a second generally circular solder pad formed upon the upper surface of the first substrate, the second generally circular solder pad having a center, and having said first predetermined diameter D, the center of said second generally circular solder pad being spaced from the center of said first generally circular solder pad by a predetermined spacing distance BL;
- c. a solder bar pad of a first predetermined bar width BW formed upon the upper surface of the first substrate connecting said first circular solder pad to said second circular solder pad, the first predetermined bar width BW being less than the first predetermined diameter D;

- d. a mass of reflowable solder having a solder bar volume VB formed over the first and second generally circular solder pads and over said solder bar pad to form said reflowable solder bar, the solder bar volume VB reaching a height H1 above the centers of said first and second generally circular solder pads, and reaching a height H2 above a midpoint of said solder bar pad, the mass of reflowable solder having a lowermost base region adjacent said solder bar pad, the width of the lower most base region of the solder mass along the solder bar pad being substantially equal to solder bar pad width BW;
- e. wherein the values for predetermined diameter D, spacing distance BL, predetermined bar width BW, and solder bar volume VB are selected in such manner that H1 and H2 are approximately equal.

Claim 24 (new): The reflowable solder bar recited by claim 23 wherein said mass of reflowable solder comprises eutectic composition solder.